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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,879	05/17/2006	Francis A. Flomerfelt	4239-64851-02	4862
36218 7590 11/30/2007 KLARQUIST SPARKMAN, LLP 121 S.W. SALMON STREET SUITE #1600 PORTLAND, OR 97204-2988			EXAMINER BOESEN, AGNIESZKA	
			ART UNIT 1648	PAPER NUMBER
			MAIL DATE 11/30/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/579,879	FLOMERFELT ET AL.	
	Examiner	Art Unit	
	Agnieszka Boesen	1648	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-66 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-66 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicants preliminary amendments filed 5/17/2006 and 3/2/2007 are acknowledged.

Election/Restrictions

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions, which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claims 1-48, drawn to a method of improving immune function in a subject comprising inhibiting SPATIAL activity and a method of increasing thymocyte function and thymocyte number comprising administering to the subject an agent that inhibits SPATIAL activity and/or interferes with interaction between SPATIAL and Uba3.

Group II, claims 49-54, drawn to a method of identifying an agent with potential for increasing thymocyte numbers comprising determining SPATIAL inhibitory activity of the agent.

Group III, claims 55-61, drawn to a method of influencing cell growth, comprising modifying a SPATIAL activity in at least one cell.

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Group IV, claims 62, 63 and 66, drawn to a method of inhibiting cell growth, comprising introducing into at least one cell a polypeptide.

Group V, claims 64 and 65 drawn to a method of inhibiting cell growth comprising expressing in at least one cell a nucleic acid sequence.

Species Election

This application contains claims directed to more than one species of the generic invention. These species are deemed to lack of unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1. Applicant is required to elect one species from the each of the following groups of species:

1. **The diseases:** If group I is elected, Applicant is further required elect **one** disease from:

HIV infection, acquired immunodeficiency syndrome (AIDS), autoimmune disease, thymic hypoplasia, chronic mucocutaneous candidiasis, severe combined immunodeficiency (SCID), cellular immunodeficiency with immunoglobulins (Nezlof syndrome), immunodeficiency with thrombocytopenia and eczema (Wiskott-Aldrich syndrome), ataxia-telangiectasia, immunodeficiency with short-limbed dwarfism, immunodeficiency with thymoma, transcobalamin II deficiency, episodic lymphopenia with lymphotoxin, or idiopathic CD4 lymphocytopenia

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If the elected species is HIV or AIDS claim 6 will be examined. If the elected species is not HIV or AIDS claim 6 will be withdrawn as being drawn to non-elected species.

2. **Inhibitory agents:** If group I is elected, Applicant is further required elect **one** agent from:

Small inhibitory RNA (an anti-sense nucleic acid), a fibozyme, an aptamer, a mirror-image aptamer, an Uba3 peptide, a SPATIAL peptide, an Uba3-specific antibody, or a SPATIAL-specific antibody

If the elected species comprises and/or consists of 15 consecutive amino acids residues of SEQ ID NO 6, claims 19, 20, 42, and 43 will be examined: 6. If the elected species does not comprise and/or consist of 15 consecutive amino acids residues of SEQ ID NO 6, claims 19, 20, 42, and 43 will be withdrawn, as being drawn to non-elected species.

3. **Amino acids sequences:** If either group II, IV, or VI is elected, Applicant is further required elect one amino acids sequence from: SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3, or SEQ ID NO: 4.
4. **Nucleic acids sequences:** If either group V is elected, Applicant is further required elect one nucleic acids sequence from: SEQ ID NO: 1, or SEQ ID NO: 3.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

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Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

The inventions listed in groups I, II, III, IV, and V do not relate to a single general inventive concept under PCT Rule 13.1 because they lack the same or corresponding special technical features for the following reasons: the special technical feature of the claimed invention is the method of inhibition of SPATIAL activity. Flomerfelt et al. (Genes and Immunity, 2000, Vol. 1, p. 391-401 in IDS of 5/17/2006) disclose SPATIAL gene and its function involved in cell proliferation (see the entire document).

Since Applicant's invention does not contribute a special technical feature when viewed over the prior art they do not have a single inventive concept and thus the claims lack unity of

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invention. Therefore, the instant invention lacks Unity of Invention and restriction is set forth as it applies to U.S. practice.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Conclusion

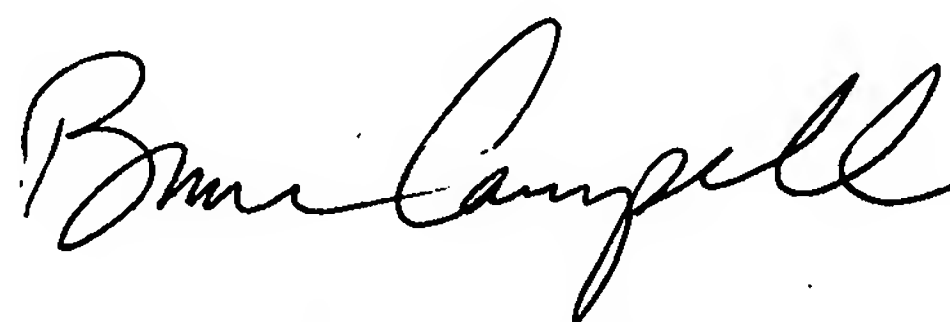
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agnieszka Boesen whose telephone number is 571-272-8035. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bruce Campell can be reached on 571-272-0974. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AB

Agnieszka Boesen, Ph.D.



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SUPERVISORY PATENT EXAMINER
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